In the Claims:

1. (Original) An integrated circuit device, comprising:

an integrated circuit chip having a clock driver therein that supports generation of a plurality of output clock signals having different frequencies in a range between 1 and 1/N times a frequency of an internal clock signal and full-period programmable skew characteristics, where N is a positive integer greater than one.

2. (Original) The integrated circuit device of Claim 1, wherein the clock driver comprises an internal clock signal generator selected from the group consisting of a phase-locked loop (PLL) integrated circuit and a delay-locked loop (DLL) integrated circuit.

3. (Original) The integrated circuit device of Claim 2, wherein the clock driver is configured to support generation of a divide-by-N clock signal having a full-period programmable skew characteristics that is stepped in NxM time units having a duration equal to 1/M times a period of the internal clock signal, where M is a positive integer greater than eight.

4. (Original) The integrated circuit device of Claim 3, wherein M=CxF, and C and F are positive integers; and wherein the NxM time units extend over a full-period of the divide-by-N clock signal at time points defined by: $\{(-((\frac{1}{2}C \times N)-1)ctu, -(\frac{1}{2}F)ftu), ..., (+((\frac{1}{2}C \times N)-1)ctu, +((\frac{1}{2}F)-1)ftu), (invert, -(\frac{1}{2}F)ftu)), ..., (invert, +((\frac{1}{2}F)-1)ftu)\}$, where "ctu" designates a coarse time unit and "ftu" designates a fine time unit.

5. (Original) The integrated circuit device of Claim 3, wherein M=CxF, and C and F are positive integers; and wherein the internal clock signal generator comprises a differential voltage-controlled oscillator having at least $\frac{1}{2}C$ stages therein.

6. (Original) The integrated circuit device of Claim 3, wherein the clock driver comprises:

a divide-by-N clock generator that is responsive to a first skew signal; and

a synchronization unit that is electrically coupled to an output of said divide-by-N clock generator circuit and responsive to the first skew signal.

7. (Original) The integrated circuit device of Claim 3, wherein the clock driver comprises:

a divide-by-N clock generator circuit that is configured to generate N divide-by-N clock signals that have the same frequency but are phase shifted relative to each other, in response to a first skew;

a one-of-N select circuit that is configured to select one of the N divide-by-N clock signals in response to a time unit position signal; and

a synchronization unit that is electrically coupled to an output of said one-of-N select circuit and is synchronized to the first skew signal.

8. (Original) The integrated circuit device of Claim 7, wherein the clock driver further comprises a phase interpolator circuit that is configured to generate the first skew signal.

9. (Original) The integrated circuit device of Claim 7, wherein the clock driver further comprises:

a delay chain and phase interpolator circuit that is configured to generate the first skew signal in response to a fine skew select signal.

10. (Original) The integrated circuit device of Claim 9, wherein the clock driver further comprises:

a multiplexer that is configured to receive a plurality of skew signals from the voltage-controlled oscillator and pass a selected one of the plurality of skew signals to said delay chain and phase interpolator circuit in response to a coarse skew select signal.

11. (Original) The integrated circuit device of Claim 3, wherein the clock driver comprises:

a divide-by-N clock generator circuit that is configured to generate N divide-by-N clock signals that have the same frequency but are phase shifted relative to each other, in response to a first skew signal having a frequency equal to the frequency of the internal clock signal; and

a one-of-N select circuit that is configured to select one of the N divide-by-N clock signals in response to a time unit position signal.

12. (Original) An integrated circuit chip, comprising:

a locked loop integrated circuit that is configured to generate a plurality of internal clock signals that are skewed in time relative to each but have the same first frequency;

a skew signal select circuit that is configured to generate a selected skew signal that is derived from at least one of the plurality of internal clock signals;

a divide-by-N clock generator circuit that is configured to generate a plurality of divide-by-N clock signals that have the same frequency but are phase shifted relative to each other in increments of 360°/N, in response to the selected skew signal, where N is a positive integer greater than one;

a synchronization unit that is configured to synchronize a selected one of the plurality of divide-by-N clock signals to the selected skew signal; and

an output buffer that is configured to drive an off-chip load with a divide-by-N output clock signal having a full-period skew characteristic, in response to a synchronized divide-by-N clock signal derived from said synchronization unit.

13. (Original) The integrated circuit chip of Claim 12, wherein the locked loop integrated circuit is selected from the group consisting of a delay-locked loop (DLL) integrated circuit and a phase-locked loop (PLL) integrated circuit.

14. (Original) The integrated circuit chip of Claim 12, wherein the output buffer has a pair of differential outputs that are configured to generate a pair of differential divide-by-N output clock signals having full-period skew characteristic.

15. (Original) The integrated circuit chip of Claim 12, wherein the skew signal select circuit comprises:

a multiplexer that is configured to receive the plurality of internal clock signals; and

a delay chain and phase interpolator circuit that is electrically coupled to an output of said multiplexer and is configured to generate the selected skew signal.

16. (Original) The integrated circuit chip of Claim 12, wherein the skew signal select circuit comprises:

a multiplexer that is configured to receive the plurality of internal clock signals; and

a phase interpolator circuit that is electrically coupled to a pair of outputs of said multiplexer and is configured to generate the selected skew signal.

17. (Original) The integrated circuit chip of Claim 12, wherein said divide-by-N clock generator comprises a one-of-N select circuit that is configured to select one of the plurality of divide-by-N clock signals, in response to a time unit position signal.

18. (Original) The integrated circuit chip of Claim 12, wherein said divide-by-N clock generator circuit is responsive to a multi-bit divide signal.

19. (Original) A method of generating a clock signal having a full-period programmable skew characteristic, comprising the steps of:

generating a plurality of internal clock signals that have equivalent frequencies, but are phase shifted relative to each other;

selecting at least one of the plurality of internal clock signals, in response to a coarse skew select signal;

generating a selected skew signal from the at least one selected plurality of internal clock signals;

generating a plurality of divide-by-N clock signals of equal frequency that are phase shifted relative to each other in increments of 360°/N, in response to the selected skew signal, where N is a positive integer greater than one;

selecting one of the plurality of divide-by-N clock signals, in response to a time unit position signal; and

synchronizing the selected one of the plurality of divide-by-N clock signals to the selected skew signal.

20. (Original) The method of Claim 19, further comprising the step of generating a pair of differential divide-by-N output clock signals from the synchronized divide-by-N clock signal.

21. (Original) A method of operating an integrated clock driver circuit, comprising the step of:

generating a plurality of divide-by-N clock signals of equal frequency that are phase shifted relative to each other in increments of 360°/N, in response to a skew signal, where N is a positive integer greater than one;

selecting one of the plurality of divide-by-N clock signals, in response to a time unit position signal;

synchronizing the selected one of the plurality of divide-by-N clock signals to the selected skew signal; and

outputting the synchronized divide-by-N clock signal through an output buffer.

22. (Original) An integrated clock driver circuit, comprising:

means for generating a skew signal having full-period skew characteristic;

means responsive to the skew signal for generating N divide-by-N clock signals that are phase-shifted relative to each other in increments of 360°/N and have partial-period skew characteristics, where N is a positive integer greater than one; and

means for generating an output clock signal by selecting one of the N divide-by-N clock signals according to a desired full-period skew characteristic.

23. (Original) An integrated circuit device, comprising:

an integrated circuit chip having a clock driver therein that supports generation of a plurality of output clock signals having different frequencies in a range between 1 and 1/N times a frequency of an internal clock signal and at least two-thirds period programmable skew characteristics, where N is a positive integer greater than two.

24. (Previously presented) An integrated circuit device, comprising:

an integrated circuit chip having a clock driver therein that supports generation of a plurality of output clock signals having different frequencies in a range between 1/N and 1/2N times a frequency of an internal clock signal and at least two-thirds period programmable skew characteristics, where N is a positive integer greater than or equal to four.